Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-9. (cancelled)

10. (currently amended) A method for extracting a plurality of analytes from a sample, comprising:

providing a plurality of different extraction probes capable of adsorbing analytes, each different extraction probe comprising a nanoparticle and a different extraction phase, wherein said extraction probes are encoded;

contacting said extraction probes with a sample suspected of comprising at least one of said analytes; and

separating said extraction probes from said sample.

11. (original) The method of claim 10, wherein said nanoparticles are segmented nanoparticles.

12. (original) The method of claim 10 wherein said extraction probes are differentiable, and wherein said method further comprises distinguishing between at least two different separated extraction probes.

13. (currently amended) The method of claim 12 ~~wherein said extraction probes are encoded, and~~ wherein said separated extraction probes are distinguished in dependence on said encoding.

14. (original) The method of claim 12 wherein said separated extraction probes are distinguished by an optical method.

15. (currently amended) The method of claim 14 wherein said optical method is ~~separated extraction probes are distinguished by a method~~ selected from the group consisting of

absorbance, fluorescence, Raman, hyperRaman, Rayleigh scattering, hyperRayleigh scattering, CARS, sum frequency generation, degenerate four wave mixing, forward light scattering, back scattering, and angular light scattering.

16. (original) The method of claim 12 wherein said separated extraction probes are distinguished by a method selected from the group consisting of near field scanning optical microscopy, atomic force microscopy, scanning tunneling microscopy, chemical force microscopy, lateral force microscopy, transmission electron microscopy, scanning electron microscopy, field emission scanning electron microscopy, electrical methods, mechanical methods, magnetic detection methods, and SQUID.

17. (original) The method of claim 10 further comprising detecting at least one analyte associated with said separated extraction probes.

18. (original) The method of claim 17 wherein said detecting step comprises quantifying said associated analyte.

19. (original) The method of claim 17 wherein said detecting step comprises identifying said associated analyte.

20. (original) The method of claim 10 wherein said extraction phase is selected from the group consisting of hydrophobic materials, hydrophilic materials, acids, bases, polyclonal antibodies, monoclonal antibodies, aptamers, small molecule receptors, polymers, molecular solids, non-molecular solids, metals, metal ions, cations, and anions.

21. (original) The method of claim 10 wherein at least one of said extraction phases is selected from the group consisting of a protein, peptide, and nucleic acid, and wherein said at least one extraction phase interacts with an analyte selected from the group consisting of a protein, peptide, and nucleic acid.

22. (original) The method of claim 10, wherein providing a plurality of different extraction probes comprises providing at least 10 different extraction probes.

23. (original) The method of claim 22, wherein providing a plurality of different extraction probes comprises providing at least 100 different extraction probes.

24. (original) The method of claim 23, wherein providing a plurality of different extraction probes comprises providing at least 1000 different extraction probes.

25. (original) The method of claim 24, wherein providing a plurality of different extraction probes comprises providing at least 10,000 different extraction probes.

26. (original) The method of claim 10, wherein said extraction probes are contacted with said sample simultaneously.

27. (withdrawn) A method for extracting a plurality of analytes from a sample, comprising:
providing a plurality of differentiable extraction probes of different masses, each comprising a solid support and a different extraction phase and being capable of adsorbing an analyte;
contacting said extraction probes with a sample suspected of comprising at least one of said analytes;
separating said extraction probes from said sample; and
distinguishing among said differentiable extraction probes in dependence on said masses.

28. (withdrawn) A method for extracting a plurality of analytes from a sample, comprising:
providing a plurality of different extraction probes encoded with spatially-resolvable codes, each extraction probe comprising a solid support and a different extraction phase and being capable of adsorbing an analyte;
contacting said extraction probes with a sample suspected of comprising at least one of said analytes;
separating said extraction probes from said sample; and

distinguishing among said different extraction probes in dependence on said spatially-resolvable codes.

29. (withdrawn) The method of claim 28, wherein said codes are distinguished optically.

30. (withdrawn) The method of claim 28, wherein said codes comprise spatially-resolvable reflectivities.

31-38. (cancelled)

39. (withdrawn) A method for detecting analytes that are differentially present in a first sample and a second sample, said method comprising:

providing first and second sets of extraction probes capable of adsorbing different analytes, each extraction probe comprising a solid support and an extraction phase, wherein said first set and said second set contain a substantially equal distribution of different extraction probes;

contacting said first set of extraction probes with said first sample and said second set of extraction probes with said second sample;

separating said first set of extraction probes from said first sample and said second set of extraction probes from said second sample;

detecting a first analyte set associated with said first set of extraction probes and a second analyte set associated with said second set of extraction probes; and

comparing said first analyte set and said second analyte set.

40. (withdrawn) The method of claim 39 further comprising identifying differences between said first analyte set and said second analyte set in dependence on said comparison.

41. (withdrawn) The method of claim 39 wherein said first analyte set comprises at least ten analytes.

42. (withdrawn) The method of claim 41 wherein said first analyte set comprises at least 100 analytes.

43. (withdrawn) A method for detecting analyte isoforms in a sample, comprising:
providing a plurality of differently coded extraction probes, each comprising a solid support and a different extraction phase, wherein at least one of said extraction probes is capable of adsorbing a parent analyte and an isoform of said parent analyte;
contacting said extraction probes with a sample suspected of comprising said parent analyte and said isoform;
separating said extraction probes from said sample; and
detecting said parent analyte and said isoform in said separated extraction probes, wherein said parent analyte and said isoform are associated with extraction probes having the same code.

44. (withdrawn) The method of claim 43, wherein said parent analyte is a parent protein and said isoform is a corresponding post-translationally modified protein.

45. (withdrawn) The method of claim 43, wherein said extraction phase comprises a polyclonal antibody.

46. (withdrawn) The method of claim 43, further comprising identifying said parent analyte and said isoform associated with said extraction probes.

47. (withdrawn) The method of claim 46, wherein said parent analyte and said isoform are identified by mass spectrometry.

48. (withdrawn) The method of claim 43, further comprising quantifying said parent analyte and said isoform associated with said extraction probes.

49. (withdrawn) A method for designing analyte extraction probes, comprising:

providing a plurality of different extraction probes, each comprising a solid support and a different combinatorially-derived extraction phase, wherein each extraction probe is capable of adsorbing an analyte;

contacting said extraction probes with a sample suspected of comprising at least one of said analytes;

separating said extraction probes from said sample; and

identifying separated extraction probes that satisfy at least one predetermined extraction probe criterion.

50. (withdrawn) The method of claim 49 wherein said extraction probe criterion comprises extracting at least one analyte of interest from said sample.

51. (withdrawn) The method of claim 49 wherein said extraction probe criterion comprises extracting non-overlapping classes of analytes from said sample.

52. (withdrawn) The method of claim 49 wherein providing a plurality of different extraction probes comprises providing between 4 and 100,000 different extraction probes.

53. (withdrawn) The method of claim 52 wherein providing a plurality of different extraction probes comprises providing between 10 and 1000 different extraction probes.

54. (withdrawn) The method of claim 49 wherein identifying said separated extraction probes comprises identifying between 10 and 50 separated extraction probes.

55-88. (cancelled)

89. (new) The method of claim 11 wherein said extraction probes are differentiable, and wherein said method further comprises distinguishing between at least two different separated extraction probes.

90. (new) The method of claim 89 wherein said separated extraction probes are distinguished in dependence on said encoding.

91. (new) The method of claim 89 wherein said separated extraction probes are distinguished by an optical method.

92. (new) The method of claim 91 wherein said optical method is selected from the group consisting of absorbance, fluorescence, Raman, hyperRaman, Rayleigh scattering, hyperRayleigh scattering, CARS, sum frequency generation, degenerate four wave mixing, forward light scattering, back scattering, and angular light scattering.

93. (new) The method of claim 89 wherein said separated extraction probes are distinguished by a method selected from the group consisting of near field scanning optical microscopy, atomic force microscopy, scanning tunneling microscopy, chemical force microscopy, lateral force microscopy, transmission electron microscopy, scanning electron microscopy, field emission scanning electron microscopy, electrical methods, mechanical methods, magnetic detection methods, and SQUID.

94. (new) The method of claim 11 further comprising detecting at least one analyte associated with said separated extraction probes.

95. (new) The method of claim 94 wherein said detecting step comprises quantifying said associated analyte.

96. (new) The method of claim 94 wherein said detecting step comprises identifying said associated analyte.

97. (new) The method of claim 11 wherein said extraction phase is selected from the group consisting of hydrophobic materials, hydrophilic materials, acids, bases, polyclonal antibodies, monoclonal antibodies, aptamers, small molecule receptors, polymers, molecular solids, non-molecular solids, metals, metal ions, cations, and anions.

98. (new) The method of claim 11 wherein at least one of said extraction phases is selected from the group consisting of a protein, peptide, and nucleic acid, and wherein said at least one extraction phase interacts with an analyte selected from the group consisting of a protein, peptide, and nucleic acid.

99. (new) The method of claim 11, wherein providing a plurality of different extraction probes comprises providing at least 10 different extraction probes.

100. (new) The method of claim 99, wherein providing a plurality of different extraction probes comprises providing at least 100 different extraction probes.

101. (new) The method of claim 100, wherein providing a plurality of different extraction probes comprises providing at least 1000 different extraction probes.

102. (new) The method of claim 101, wherein providing a plurality of different extraction probes comprises providing at least 10,000 different extraction probes.

103. (new) The method of claim 11, wherein said extraction probes are contacted with said sample simultaneously.